

Claims

- [c1] 1.A high power synchronous electric motor comprised of a rotor having a rotor shaft carrying a plurality of circumferentially spaced permanent magnets, a stator encircling said rotor and comprised of a plurality of poles around which coil windings are formed, a high capacity terminal circuit positioned at one axial end of said poles in circuit with said coil windings, a magnet detector positioned at the other axial end of said poles and cooperating with permanent magnets for determining the rotational position of said rotor, and a resinous body encasing said poles, said windings, and said high capacity terminal circuit to form a single unit.
- [c2] 2. A high power synchronous electric motor as set forth in claim 1, wherein end closures carrying bearings for journaling opposite ends of said rotor shaft are directly fixed to said resinous body.
- [c3] 3.A high power synchronous electric motor as set forth in claim 2, wherein the end closures are affixed to the resinous body by threaded fasteners threaded into inserts retained in said resinous body.

- [c4] 4.A high power synchronous electric motor as set forth in claim 1, wherein the magnet detector includes a sensor element fixed to the other end of the resinous body.
- [c5] 5.A high power synchronous electric motor as set forth in claim 4, wherein the sensor element of the magnet detector is carried by the end closure at the respective end of the rotor shaft.
- [c6] 6.A high power synchronous electric motor as set forth in claim 5, wherein the end closures are affixed to the resinous body by threaded fasteners threaded into inserts retained in said resinous body.
- [c7] 7.A high power synchronous electric motor as set forth in claim 6, further including an end cap affixed to the resinous body and enclosing the end closure carrying the sensor element of the magnet detector.
- [c8] 8.A high power synchronous electric motor as set forth in claim 1, wherein the high capacity terminal circuit is comprised of a plurality of ring shaped sheets surrounding the rotor shaft each having connections to a plurality of the coil windings and being axially spaced from each other and imbedded in an insulating material.

[c9] 9.A high power synchronous electric motor as set forth in claim 8, wherein the insulating material is embedded in the resinous body.

[c10] 10.A high power synchronous electric motor as set forth in claim 9, wherein each of the ring shaped sheets has at least one axially extending terminal penetrating through the insulating material to accommodate an external electrical connection.